

BURMISTROV, S.I.; KRAKOVTSOVA, G.Ye.

~~N-formyl-arenesulfamides~~. Ukr. khim. zhur. 24 no.3:348-350 '58.
(MIRA 11:9)

1.Dnepropetrovskiy khimiko-tekhnologicheskii institut.
(Sulfamide)

BURMISTROV, S.I.; KRAKOVITSEVA, G.Ye.

Arensulfonyl-N-salicylamides. Ukr. khim. zhur. 27:240-243 '61.
(MIRA 14:3)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.
(Salicylamide)

BURMISTROV, S.I.; MARKOV, V.I.; KRAKOVTSOVA, G.Ye.

Alkylation of arenesulfamides with 2-butanol. Zhur.ob.khim. 31
no.9:2941-2943 S '61. (MIRA 14:9)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.
(Sulfamide) (Butyl alcohol)

BURMISTROV, S.I.; KRAKOVTSOVA, G.Ye.

Alkylation of amines. Part 2: Alkylation of o-anizidine by tert-butyl alcohol. Zhur.ob.khim. 32 no.6:2003-2005 Je '62. (MIRA 15:6)

1. Dnepropetrovskiy khimiko-tekhnologicheskii institut.
(Anizidine) (Butyl alcohol)

KRAKOVYAK, B.N., starshiy prepodavatel'

Miniature dynamometer with resistance pickups used on lathes.
Trudy DVPI 56 no.1:73-75 '62. (MIRA 17:6)

KRAKOVYAK, G.M.

Hygienic evaluation of the nutrition of participants in the
All-Union spartakiads for students. Vop.pit. 18 no.4:29-34
Jl-Aug '59. (MIRA 12:10)

1. Iz kafedry gigiyeny (zav. - dotsent Ya.M.Bogdanov) Gosudar-
stvennogo ordena Lenina i ordena Krasnogo Znameni instituta
fizicheskoy kul'tury imeni P.F.Lesgafta, Leningrad.

(ATHLETICS,

nutrition of adolescent competitors in athletic
games (Rus))

(NUTRITION,

of adolescent competitors of athletic games
(Rus))

BOGDANOV, Ya.M.; KRAKOVYAK, G.M.

Petr Frantsevich Lesgaft (1837-1909). Gig. i san. 25 no.3:49-50
Mr '60. (MIRA 14:5)

1. Iz Instituta fizicheskoy kul'tury imeni P.F.Lesgafta.
(LESQAFT, PETR FRANTSEVICH, 1837-1909)

BOGDANOV, Yakov Mikhaylovich, dots.; KRAKOVYAK, Grigoriy Mironovich,
dots.; DOBROV, A.A., red.; REKLISOVA, T.D., tekhn. red.

[Hygiene] Gigiena. Moskva, Izd-vo "Fizkul'tura i sport," 1961.
167 p. (MIRA 15:2)
(HYGIENE) (PHYSICAL EDUCATION AND TRAINING)

KRAKOVYAK M.F.

MATVEYEV, A.S.; YERMOLOV, I.N.; KRAKOVYAK, M.F.

Contactless radioactive relays. Priborostroenie no.1:26-28 Ja '56.
(MLRA 9:8)

(Radioactive substances--Industrial applications)
(Electric relays)

YERMOLOV, I.N.; KRAKOVYAK, M.F.

Ultrasonic thickness measuring instruments. Priborostroenie
no.8:13-15 Ag '56. (MLRA 9:10)

(Ultrasonic waves--Industrial applications)
(Measuring instruments)

YERMOLOV, I.N.; KOBRIN, M.M.; KRAKOVYAK, M.F.

Use of ultrasonics to investigate fatigue cracks in shafts with
pressed-on parts. Zav.lab. 22 no.6:724-728 '56. (MLRA 9:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i
mashinostroyeniya.

(Shafts and shafting--Testing) (Ultrasonic testing)

AUTHORS: Yermolov, I.N., and Krakovyak, M.F. SOV/19-58-6-361/685

TITLE: An Ultrasonic Method of Measuring the Thickness of the Hollow Space Inside Metal Objects With an Ultrasound Thickness-Gage (Ul'trazvukovoy sposob izmereniya tolshchiny polosti vnutri metallicheskiykh izdeliy s pomoshch'yu ul'trazvukovogo tolshchinomera)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 6, pp 80 - 81 (USSR)

ABSTRACT: Class 42b, 12⁰¹. Nr 113943 (573599 of 25 May 1957). Submitted to the Committee for Inventions and Discoveries at the Ministers Council of USSR. A method as specified in the title, consisting in filling the hollow space under examination with a liquid with a known speed of propagation of the ultrasound waves in it, and measuring the total thickness of the object, then measuring the thickness of the walls confining the hollow space without the filler liquid, and finally determining the desired thickness by the difference of the measured values; using a resonance thickness-gage whose maximum oscillation frequency is less than that

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SOV/19-58-6-361/685
An Ultrasonic Method of Measuring the Thickness of the Hollow Space Inside Metal Objects with an Ultrasound Thickness-Gage

of the side of the article facing the gage, to eliminate the multiple reflections of oscillations in this side,

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SOV/19-58-7-223/392

AUTHORS: Yermolov, I.I., and Krakovyak, M.F.

TITLE: An Ultrasonic Resonance Thickness Meter (Ul'trazvukovoy rezonansnyy tolshchinomer)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 7, p 52 (USSR)

ABSTRACT: Class 42b, 12₀₃. Nr 114297 (562274 of 8 December 1956).
An ultrasonic resonance thickness meter, with the oscillation circuit of the generator, electrically connected with the adjustable measuring circuit which fixes frequencies, corresponding to resonance oscillations within the work. The meter includes a straight-line frequency capacitor with the turn angle of the rotor, proportional to the difference of frequencies being measured by the circuit. A variable inductance introduced into the measuring circuit compensates the change of the speed of ultrasonics in the work material, which permits application of the straight-line frequency capacitor, with the

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SCV/19-58-7-223/392

An Ultrasonic Resonance Thickness Meter

same scale, for measurements of the thickness of
different materials.

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(SOV/19-58-7-259/392

AUTHORS: Matveyev, A.S., and Krakovyak, M.F.

TITLE: Instrument Measuring the Amplitude of Vibration Oscillations (Pribor dlya izmereniya amplitudy vibratsionnykh kolebaniy)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 7, p 59 (USSR)

ABSTRACT: Class 42k, 20₀₃. Nr 114093 (585795 of 4 November 1957). An instrument for measuring the amplitude of vibrations, using a micrometer screw as an additional measuring element; to make possible non-contact measuring of the absolute amplitude value, the end face of the micrometer screw is connected through inductance with the circuit of a high-frequency generator plus a detector, a d.c. amplifier and an electron-ray tube with a screen; the micrometer screw end face forms the one plate of a capacitance pickup, the vibrating surface of the vibrator provides the other.

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MATVEYEV, A.S., kand. tekhn. nauk; YERMOLOV, I.N., inzh.; KRAKOVYAK, M.P.

Ultrasonic instruments designed by the Central Scientific
Research Institute of Technology and Machinery. [Trudy] TSNIITMASH
88:5-29 '58. (MIRA 12:3)
(Ultrasonic wave--Industrial applications)
(Pulse techniques (Electronics))

RYZHOV, V.I., inzh.; KRAKOVYAK, M.F.

Signal generators for tuning wide-band amplifiers. [Trudy]
TSNIITMASH 88:82-86 '58. (MIRA 12:3)
(Radio amplifiers--Measurement)

SOV/115-59-2-4/38

3(6)

AUTHOR:

Yermolov, I.N., Krakovyak, M.F.

TITLE:

Ultra-Sonic Resonance of Measuring Apparatus URT-5
(Ul'trazvukovoy rezonansnyy tolshchinomer URT-5)

PERIODICAL:

Izmeritel'naya tekhnika, 1959,
(USSR)

Nr 2, pp 10-14

ABSTRACT:

Ultra-sonic metrological equipment of various kinds is successfully used to measure the thickness of products, which are accessible on one side only. In the USSR, mass production has begun of resonance measuring equipment V4-8R. A test series of measuring instruments UZT-4M has also been produced. The main shortcoming of both these types is the difficulty of reading off results. Foreign concerns are manufacturing such equipment which indicate the test data directly. But these instruments are large and unweildy and require complicated pre-measurement adjustment. In 1957, TsNIITMASH developed an ultra-sonic measuring device that eliminates these difficulties. This is described here, to-

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SOV/115- 59-2-4/38

Ultra-Sonic Resonance of Measuring Apparatus URT-5

gether with its range of use and degree of error (2% where thickness is normal). The device is especially suitable for tube measurements, particularly where the tubes have small diameters (up to 10 mm). The measuring callipers are designed in a special way, according to the piezo-electrical principle. A.P.Sviridov recommended the use of turmalin - a piezo-element - in the production of callipers. This, in fact, resulted in them being 1.5-2 times more sensitive as well as more durable than quartz. Moreover, they did not emit false impulses, whereas 50% of the quartz tracers did. The dimensions of this measuring device are 220 x 360 x 425 mm. After successfully passing laboratory tests, the first example produced of this device was handed over as operative to a factory. There are 7 formulae, 1 circuit diagram, 1 photograph and 8 references, 6 of which are Soviet and 2 English.

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24 (1)

SOV/19-59-6-178/309

AUTHOR: Yermolov, K. N., and Krakoviyak, M. F.

TITLE: A Detector for an Immersion-Type Hypersonic Analyzer

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 6, p 37 (USSR)

ABSTRACT: Class 42k, 46₀₆. Nr 118649 (606809 of 30 Aug 1958)

A detector as in title, with a plexiglass intermediate layer matching the acoustic properties of the piezo-element and the liquid medium. To eliminate false signals, the layer is made in the form of a wedge, in the upper part of which takes place the blacking-out of supersonic waves reflected from the border area of the wedge with the liquid.

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S/032/60/026/011/C10/035
B015/B066

1.9600 also 2209

AUTHORS: Yermolov, I. N., Krakovyak, M. F., and Matveyev, A. S.

TITLE: Control of Small-diameter Tubings by Means of Ultrasonic
Reflection and Thickness Gage

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11,
pp. 1232-1235

TEXT: The thickness gages using ultrasonic reflection are particularly suitable for testing thin parts (less than 5-10 mm) in all cases where the ultrasonic pulse generators are inadequate. In tube inspection the intensity of the echo signal may be increased by the use of radiation heads with concave contact surface. The authors already described (Ref. 1) a radiation head with two piezoelectric crystal plates forming an angle. The disadvantage of this design is that the thickness is measured in fact on two points. When using the easily deformable barium titanate, the disadvantage lies in the poor quality of the piezo element. In discussing the interference reduction of the device the authors describe in the

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Control of Small-diameter Tubings by Means of
Ultrasound Reflection and Thickness Gage

S/032/60/026/011/010/035
B015/B066

present case the operation of a thickness gage which utilizes ultrasound reflection, and point out the following: one of the main causes of interference is the frequency modulator, i.e., its core which is made of magnetoelectric materials. To avoid resonant vibrations, the core was made of cermet (Ref. 2), as, for instance, in the frequency modulator of the VPT-6 (URT-6) device made of "oksifer 400". As the second cause of interference the authors mention the excitation of elastic vibrations in the piezoelectric crystal plate of the radiation head. The authors showed that this excitation can be reduced by the application of wedge-shaped plates. An attenuation of the surface waves may also be achieved by extending the radiation head, so that also thicknesses in tubes with a diameter of more than 10 mm may be controlled. By means of the URT-6 gage the interference level was lowered and it was thus made possible to measure thicknesses in the range of 0.35 - 50 mm with a maximum error of $\pm 2\%$. There are 5 figures and 4 references: 3 Soviet and 1 British.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building)

Card 2/2

1 9600 also 2209

S/032/60/026/011/011/035
B015/B066

AUTHORS: Matveyev, A. S. and Krakovyak, M. F.

TITLE: ¹⁴ Ultrasonic Quality Control of Thin-wall Tubings by Means of Free Waves

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11,
pp. 1235-1238

TEXT: The authors describe a device for automatic control of thin-wall tubings by means of intermittent "free" waves. The theory of the occurrence of "free waves" in a thin lamina which is placed in a liquid or gaseous medium, was described in the monograph by L. M. Brekhovskikh (Ref. 2). It was shown that two wave types may develop, symmetric and asymmetric waves. If defects occur in the thin metallic layer through which the waves are passed the wave propagation is interrupted under the formation of a reflection. The МДМ-2 (IDTs-2) unit for the quality control of tubes described in the present article operates with free waves in the form of short pulses, with the application of the immersion method.

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Ultrasonic Quality Control of Thin-wall
Tubings by Means of Free Waves

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B015/B066

Contrary to other methods of this kind (Refs. 3,4) only one vibrator is used in the present case which means an appreciable simplification of the device. It may be seen from the block scheme and the reproduction of the device that the tube is submerged in water, allowed to rotate about the axis with a velocity of 300 rpm, and short pulses of longitudinal waves are given with a frequency of 2.5 Mc/sec upon the tube surface. The maximal duration of a pulse is 2 microseconds. In the case of material defects, the free waves are reflected, part of the energy returns to the emitter which then receives the elastic vibrations in the transmission intermissions. The reflected pulses are amplified and recorded by means of a signaling device (bell or lamp). The device described was designed by I. I. Puzyrev and permits controls in tubes with a length of up to 1.5 m. There are 4 figures and 6 references: 2 Soviet, 3 German, and 1 US.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building)

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S/032/60/026/011/013/035
B015/B066

1.9600 also 2209

AUTHORS: Yermolov, I. N., Ivancv, O. V., and Krakovyak, M. F.

TITLE: Luminescence and Ultrasound in Flaw Detection

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11,
pp. 1239-1241

TEXT: The method described has been registered by the Komitet po delam izobreteniy i otkrytiy pri Sovete Ministrov SSSR (Committee of Inventions and Discoveries at the Council of Ministers of the USSR), effective as of March 22, 1960. The novelty of this method is that the part is submerged in phosphor and irradiated with an intense ultrasonic wave. The wetting of the part with the phosphor is thus considerably improved, defects are purified from inclusions, oxide films are destroyed, and a preparation of the part is avoided in this way. The subsequent operations are carried out as usually with the luminescence method. A schematic representation of the device for ultrasonic treatment of parts in phosphor shows that the ultrasonic waves are emitted from a piezoelectric crystal plate and are

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Luminescence and Ultrasound in Flaw
Detection

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B015/B066

focused by means of a lens, spread in the phosphor solution and are incident upon the part through a screen. The piezoelectric crystal plate is made of quartz or barium titanate and silvered on both sides. The distance of the focus of the lens which warrants the focussing of the ultrasound upon the site of the part to be inspected is calculated from an equation. The generator has a double circuit with self-excitation on two GY-50 (GU-50) tubes. The rectifier which feeds the generator has a combined voltage circuit with two 5U3S (5Ts2S) kenotrons, in a way that the total anode potential will be 900 v. When comparing the figures of making visible cracks due to polishing of a part, it may be seen that the formation of cracks is far better confirmed by the method described than by means of the conventional luminescence method. The authors point out that also the flaw detection by means of dyes could be appreciably improved by using ultrasound. The device described above and designed in the laboratoriya defekteskopii TsNIITMASH (Laboratory for Quality Control of the TsNIITMASH) works at a frequency of up to 800 kc/sec. There are 2 figures.

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Luminescence and Ultrasonic in Flaw
Detection

S/032/60/026/011/013/035
B015/B066

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroyeniya (TsNIITMASH) (Central Scientific
Research Institute of Technology and Machine Building
(TsNIITMASH))

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24.1800

21066
S/019/61/000/004/066/110
A152/A127

AUTHORS: Matveyev, A.S., Krakovyak, M.F., and Yermolov, I.N.

TITLE: An ultrasonic flaw detector for pipes

PERIODICAL: Byulleten' izobreteniy, no. 4, 1961, 54

TEXT: Class 42k, 4607. No. 136088 (661933/25 of April 6, 1960).
An ultrasonic flaw detector for pipes, comprising a vessel filled with liquid in which pipes under test are placed, and an ultrasonic emitter submerged in a liquid and provided with a focusing and clarifying capping, e.g. in the form of a cylindrical lens, which focuses ultrasonic oscillations along the pipe generatrix, differing in that for eliminating reflection of oscillations directly from the surface of the examined pipe, the emitter is located off-center in relation to the pipe axis, so that the axis of the focused beam of the ultrasonic waves should not intersect the axis of the tested pipe.

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S/887/61/000/000/023/069
E194/E155

AUTHORS: Yermolov, I.N., and Krakovyak, M.F.

TITLE: A detector for an immersion ultrasonic flaw detector.
(A.c. no. 118649, cl. 42k, 46 (no. 606809 of August 30, 1958))

SOURCE: Sbornik izobreteniy; ul'trazvuk i yego primeneniye.
Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform., 1961, 34-35

TEXT: Immersion detectors for ultrasonic flaw detectors ensure very stable acoustic contact between detector and product when one is moved over the other. The method consists in irradiating the product through a layer of liquid whose thickness considerably exceeds the ultrasonic wavelength. In such detectors an acoustic liner is inserted between the ultrasonic vibrator and the liquid, to raise the efficiency and to reduce the dead zone. The acoustic resistance of this liner is approximately the algebraic mean of the acoustic resistances of the material of the vibrator and the liquid. However, the liner causes false signals, by ultrasonic reflection from the boundary between the element

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A detector for an immersion ...

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(usually a plate of transparent plastic) and the liquid. The proposed detector (Fig.27) overcomes this defect by employing a novel wedge-shaped liner. The upper part of the wedge traps ultrasonic waves reflected from the boundary. Also, ultrasonic waves which fall on the boundary between the liner and liquid are partially reflected at an angle which is not a right angle, and so are not returned to the piezo-element but are absorbed by reflection in the thin upper part of the wedge. The technique completely eliminates false signals and greatly increases the sensitivity of the instrument. There is 1 figure.

[Abstractor's note: Complete translation.]

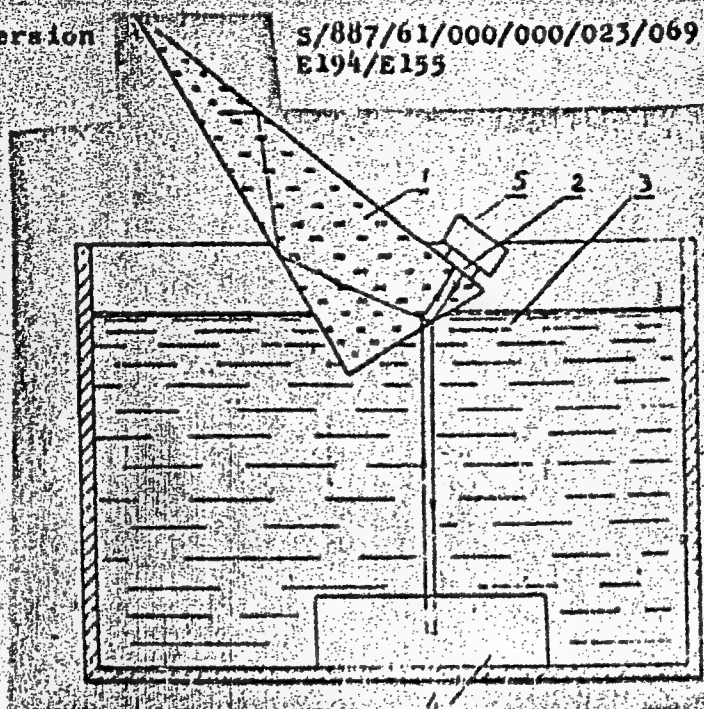
Fig.27. Diagram of immersion detector of flaw-detector.

1 - wedge; 2 - radiator; 3 - liquid; 4 - irradiated body;
5 - damper.

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A detector for an immersion
Fig. 27

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Krakovyak M.F.

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E194/E155

AUTHORS: Yermolov, I.N., and Krakovyak, M.F.

TITLE: An ultrasonic method of measuring the thickness of bands in metal products by means of an ultrasonic thickness meter. (A.c. no. 113943, cl. 42b, 12₀₃ (no. 573599 of May 25, 1957))

SOURCE: Sbornik izobreteniy, ul'trazvuk i yego primeneniye, Kom. po delam izobr. otkrytiy. Moscow, Tsentr. byuro tekhn. inform., 1961, 45-46

TEXT: In metal products of complex shape the gap or band to be measured is filled with water, mercury or other liquid in which the rate of propagation of ultrasonic oscillations is known. The thickness is measured from the difference between the total thickness of the bundle (consisting of the walls of the product and the filler) and the thickness of the walls of the product, as indicated by an ultrasonic thickness meter. Resonance and impulse methods of measuring are proposed for measuring the total thickness (with filler) from one side of the product, which is of the greatest practical interest. Measurements are made of ultrasonic reflection
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An ultrasonic method of measuring...

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E194/E155

from the boundary between the liquid and the rear wall of the product. In using the impulse method the thickness of the front wall should be much less than the ultrasonic wavelength, otherwise reflection from the front boundary of the back wall is masked by multiple reflection of ultrasonics within the wall. In measuring products with wall thicknesses of 3 - 10 mm, it is recommended to use a resonance ultrasonic thickness meter with a maximum oscillation frequency less than the fundamental resonance frequency of the wall, i.e. Φ_{\max} should be less than $c/2d$, where c is the speed of ultrasonics in the material of the wall, and d the wall thickness. Thus the thickness of the front wall is less than half the wavelength of the ultrasonic oscillations, and no resonance oscillations are set up in the wall. The proposal has been acknowledged useful by the NII Tekhnologii i mashinostroyeniya (Scientific Research Institute of Technology and Engineering).

[Abstractor's note: Complete translation.]

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S/887/61/000/000/030/069
E202/E155

AUTHORS: Yermolov I.N., and Krakovskiy M.F.

TITLE: Ultrasonic resonance thickness gauge.
A.c. no. 114297, cl. 42b, 12⁰³ (no. 562274 of December 8, 1956)

SOURCE: Sbornik izobreteniy: ul'trazvuk i yego primeneniye. Kom. po delam izobr. i otkrytiy. Moscow, Tsentr. byuro tekhn. inform., 1961, 46-47.

TEXT: The ultrasonic resonance thickness gauge (Fig. 38) comprises an ultrasonic oscillator, a piezoelectric convertor and a measuring circuit coupled inductively with the oscillating circuits of the generator and oscillograph. The measuring circuit assesses the appearance of the resonance oscillations in the article and measures the resonance frequency. The main difference of the present resonance thickness gauge from the known ones lies in the incorporation in the measuring circuit of a straight-line frequency variable condenser, to tune the measuring circuit to resonance. The application of the tuning condenser made it possible to take direct readings of the thickness of the article

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Ultrasonic resonance thickness gauge

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E202/E155

from the scale of the instrument. The gauge excites continuous ultrasonic oscillations within the article; their frequency may vary within certain limits. At a certain frequency, when an integral number of half-waves is established within the thickness of the article, resonance occurs. Knowing the frequency, the thickness of the article may be easily found from the formula:

$$d = \frac{v \cdot n}{2f_n}$$

where: v - velocity of ultrasonic wave propagation in the substance of the article; n - number of harmonics of the resonance oscillations; f_n - frequency of oscillations. However, in practice, in order to determine the thickness of the article according to this method, frequencies of both resonances with harmonics f_m and f_n are measured since the determination of the number of harmonics is quite difficult. Knowing the frequency of the resonance oscillations f_m and f_n , it is easy to find the thickness of the article from the formula:

$$d = \frac{v (m - n)}{2(f_m - f_n)}$$

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Ultrasonic resonance thickness gauge S/887/61/000/000/030/069
E202/E155

The angle of rotation of the straight-line condenser is proportional to the difference of the resonance frequency, so that the instrument has the above-mentioned direct-reading feature. The following method was adopted for measuring the thickness of the articles with the above thickness gauge. Resonance in the article shows on the screen of the oscillograph as pulses corresponding to resonance frequencies. Since the measuring circuit is coupled inductively with the oscillator circuit, the screen displays a pulse corresponding to the resonance frequency of the measuring circuit. By varying the capacity of the straight-line frequency condenser it is possible to accommodate on the screen the measuring pulse with the pulse corresponding to whatever is the resonance frequency of the article, which will correspond to the difference of these two resonance frequencies. After such alignment, the rotor of the variable condenser is connected permanently with the measuring scale of the instrument, preliminarily set on the division of the scale and, changing the resonance frequency of the measuring circuit, the measuring impulse is again aligned with the neighboring resonance of the article taking the reading from the scale of the instrument. If alignment is to the second or third resonance pulse

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Ultrasonic resonance thickness gauge

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E202/E155

rather than the neighboring one, then the indication of the instrument should be multiplied by two or three, respectively, according to whether $m - n = 2$ or 3 . The gauge may be used with the same type of scale for measuring the thickness of articles having a different velocity of ultrasonic wave propagation. This is attained by changing the inductance of the measuring circuit by means of a variable inductance, using an article of known thickness. There is 1 figure.

[Abstracter's note: Complete translation.]

Fig. 38. Circuit of an ultrasonic resonance thickness gauge.

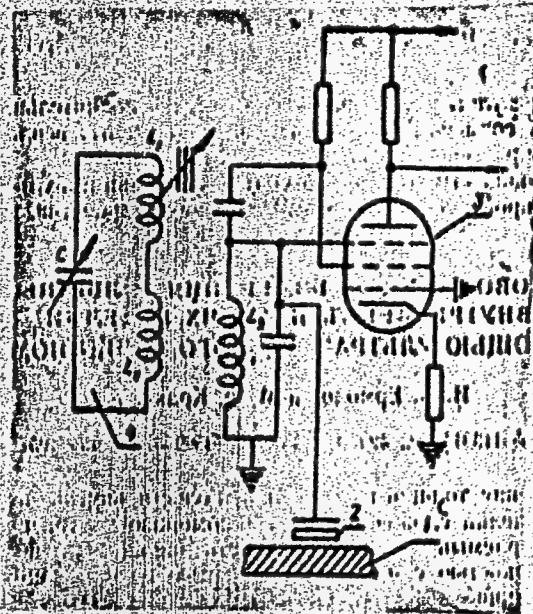
1 - article; 2 - piezoelectric transducer;
3 - oscillator; 4 - measuring circuit.

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Ultrasonic resonance thickness gauge

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E202/E155

Fig.38



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30652

S/019/62/000/011/045/086

A154/A126

AUTHORS: Yermolov, I. N., Krakovyak, M. F., Matveyev, A. S.

TITLE: An ultrasonic instrument for measuring the wall thickness of objects

PERIODICAL: Byulleten' izobreteniy, no. 11, 1962, 54

TEXT: Class 42b, 12₀₃. No. 147771 (686022/25 of November 21, 1960). The ultrasonic instrument for measuring the wall thickness of objects whose inside is accessible only with difficulty contains a frequency modulator for ultrasonic waves emitted at a certain constant angle to the surface of the object, and a receiver with an indicator for the value of the ultrasonic energy received. It is distinguished by the fact that, to achieve continuous measurements of the object thickness, this is determined from the oscillation frequency corresponding to a sharp increase of the received signal due to the appearance of Lamb or Love waves in the wall of the object.

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S/019/62/000/022/084/085
A156/A128

AUTHORS: Yermolov, I. N., Krakovyak, M. F., Matveyev, A. S.

TITLE: Method of measuring the thickness of pipes, sheets and other products

PERIODICAL: Byulleten' izobreteniy, no. 22, 1962, 71

TEXT: Class 42b, 12₀₃. No. 147771 (686022/25 of November 21, 1960). This is the new text of the subject of invention filed under Author's Certificate no. 147771, published in no. 11, 1962, of "Byulleten' izobreteniy". This method of measuring the thickness of pipes, sheets and other products uses supersonic oscillations and is novel in that it permits continuous measurement. To this end the thickness of the article is determined from the frequency of supersonic oscillations directed toward the article at a fixed angle, and from the sharp increase of the signal being received because of the appearance in the article of Lamb or "Lyav" waves.

[Abstracter's note: Complete translation]

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USSR

ACCESSION NR: AP3008402

S/0286/63/000/014/0055/0056

AUTHOR: Grebennik, V. S.; Yermolov, I. N., Krakovyak, M. F.

TITLE: A method of super-sonic measurement of a thickness of an article, for example, the walls of tubes. Author's Certificate NRL55938 Class G 016; 42b, 12sub03.

SOURCE: Byulleten' izobret. i tovarn. znakov, no. 14, 1963, 55-56

TOPIC TAGS: Super-sonic thickness measurement, liquid-medium surrounded article

ABSTRACT: A method of super-sonic measurement of a thickness of an article, for example, the walls of tubes, which is based on the interference of super-sonic waves reflected from the outside and the inner surfaces of the article immersed in a liquid medium, and utilizing frequency modulated pulses. In order to automatize the process and to insure continuous measurement of products moving along a production line, the thickness is determined from the envelope of the reflected pulses, and to prevent formation of standing waves

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ACCESSION NR: AP3008402

and reverberation interferences in the contacting liquid medium, the thickness selected for the layer of this medium is greater than the distance travelled by the super sound during a pulse. Orig. art. has: no graphics.

ASSOCIATION: none

SUBMITTED: 22Feb62

DATE ACQ: 29Oct63

ENCL: 00

SUB CODE: ML,PH

NO REF SOV: 000

OTHER: 000

Card 2/2

L 17880-65 EWT(d)/EWT(m)/EWP(c)/EWA(d)/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(b)/EWP(1)
 PF-1 ASD(m)-3 JD/HW/WB

ACCESSION NRI AP4046946

S/0286/64/000/017/0050/0050

AUTHOR: Grebennik, V. S.; Yermolov, I. N.; Krakovyak, M. F.

TITLE: A method of determining the interval structure of metal products. Class 42, No. 165002. B

SOURCE: Byul. izobr. i tovar. znakov, no. 17, 1964, 50

TOPIC TAGS: metal structure, metal structure determination, intergranular corrosion, corrosion depth determination, ultrasonic structure determination

14
 ABSTRACT: This Author Certificate introduces a method for determining the structure of metal and the depth of penetration of intergranular corrosion in parts accessible only from one side. The method is based on the determination of the damping coefficient of ultrasound reflected by a tested part immersed in a liquid. The ultrasonic beam is emitted and reflections are received by a piezoelectric transducer. In order to expand the range of measurements, particularly for the determination of the structure of thin-walled tubes, the damping coefficient is determined from the ratio of the amplitude of ultra-

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L 17880-65

ACCESSION NR: AP4046946

sound reflected from the wall of the tested part at a frequency corresponding to that of the part vibration resonance, to the amplitude of ultrasound reflected in the absence of resonance effects. The reflected waves are led through the transducer to a frequency-and-amplitude analyser.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Machine-Building)

SUBMITTED: 24Jun63

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 2/2

L 10210-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l)/ETC(m) WW

ACC NR: AP5028505

SOURCE CODE: UR/0286/65/000/020/0082/0082

AUTHORS: Krakovyak, M. F.; Matveyev, A. S.; Yermolov, I. N.

ORG: none

TITLE: A multichannel ultrasonic pulse flaw detector. Class 42, No. 175701
/announced by Central Scientific Research Institute of Technology and Machine Building (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 82

TOPIC TAGS: flaw detection, ultrasonic flaw detector, pulse generator, magnetic core

ABSTRACT: This Author Certificate presents a multichannel ultrasonic pulse flaw detector. The device contains a generator and a receiver of ultrasonic oscillations and a number of search attachments switched alternately to the generator and receiver (see Fig. 1). In order to increase the accuracy of flaw detection by eliminating noise signals created by mechanical switching of the attachments, the switch is made in the form of a rotating Π -shaped magnetic core, mounted on a shaft. The middle part of the core has fixed windings which are connected to the receiver and generator. The switch also has a number of fixed linear cores with windings connected to the search attachments. The fixed cores are on the path of motion of the moving core and serve for alternate connection of the corresponding attachment to the generator

Card 1/2

UDC: 620.179.16.05

L 10210-66

ACC NR: AP5028505

and receiver. To synchronize the delivery of the pulses with the operation of the switch, the shaft of the switch has a pickup that triggers the generator at the moment that the maximum magnetic coupling of the search attachment with the generator and receiver is reached.

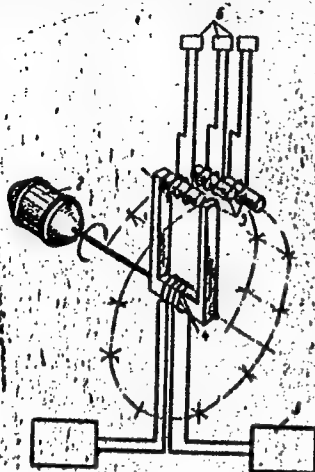


Fig. 1. 1 - Core; 2 - generator;
3 - receiver; 4 - windings;
5 - cores with windings;
6 - search attachments.

Orig. art. has: 1 figure.
SUB CODE: 09/4/SUBM DATE: 06Oct64
Card 2/2

L 10209-66 EWT(d)/EMP(c)/EMP(v)/T/EMP(k)/EMP(l)/ETC(m) WW
 ACC N.: AP5028548 SOURCE CODE: UR/0286/65/000/020/0162/0162
 4/0
 B
 44 55 44 55 44 55
 AUTHORS: Yermolov, I. N.; Krakovyak, M. F.; Vyatskov, I. A.
 ORG: none 44 55 44 55 44 55
 TITLE: Ultrasonic flaw detector probe. Class 42, No. 167664 /announced by Central
 Scientific Research Institute of Technology and Machine Construction (Tsentral'nyy
 nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)
 SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 162
 TOPIC TAGS: ultrasonic flaw detector, ultrasonic inspection
 ABSTRACT: This Author Certificate presents an ultrasonic flaw detector probe
 containing a piezoelement, a prism with a catcher, and a protector protecting the
 prism from wear. To decrease the noise resulting from reflections of ultrasound
 from the front edge of the protector, the protector is provided with a flange
 (catcher). The flange covers, for example, the front and top face of the prism
 and is fabricated as a unit with the protector. The ultrasonic beams originating
 in the protector and not penetrating the product pass into the prism catcher and
 are damped. To improve the directionality of the ultrasonic beam in products

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2

L 10209-66

ACC NR: AP5028548

with rounded surfaces, the contact surface of the protector is made in the shape of the controlled product. The protector itself is fabricated from material in which the velocity of transverse ultrasonic waves is greater than that in the material of the controlled product.

SUB CODE: 09, 13/

SUBM DATE: 14Dec63

Card 2/2

ACC NR: AP6035504 (N) SOURCE CODE: UR/0135/66/000/011/0031/0033

AUTHOR: Yermolov, I. N. (Candidate of technical sciences); Krakovyak, M. F. (Engineer); Vyatskov, I. A. (Engineer); Rakhmanov, V. V. (Engineer)

ORG: TsNIITMASH

TITLE: Ultrasonic inspection of butt-welded boiler pipe joints

SOURCE: Svarochnoye proizvodstvo, no. 11, 1966, 31-33

TOPIC TAGS: ultrasonic inspection, welding inspection, pipe

ABSTRACT: The authors describe specialized inspection probes developed at the Central Scientific Research Institute of Technology and Machine Building in 1962 for checking welded joints in thin boiler tubes. The improved directivity of ultrasonic waves in these units gives a higher signal-to-noise ratio. The surface of the probe which contacts the tube has a radius of curvature equal to that of the tube. The plexiglass prism used for refracting the ultrasonic oscillations into the welded joint has an angle of incidence of $53-55^\circ$ so that the angle of refraction of the rays in the metal is $74-80^\circ$. Rays propagating at this angle are not extremely sensitive to surface irregularities although they show up welding defects quite well. The two types of probes developed are the ITs-2 and ITs-3. The ITs-3 has somewhat poorer ultrasonic directivity but is small in size so that it may be used for inspection when the distance be-

Cord 1/2

UDC: 621.791.762.052:620.179.16:621.181.021

ACC NR: AP6035504

tween pipes is 15-20 mm. The ITs-2 is now being produced by the "Elektrotochpribor" Plant. A special method for calibration of the instruments is described. Tests of the ultrasonic welding inspection method show coincidence with data obtained from cutting the welded seams in 85% of the cases. Flaws are rarely missed. The productivity of the method is 70-150 joints per shift depending on inspection conditions. Thus the method is an improvement over x-ray inspection. Studies show that ultrasonic inspection may be used in quality control of thin pipe joints made by high-frequency welding and also for inspecting joints in pipe made from aluminum and other alloys. Orig. art. has: 3 figures, 1 table.

SUB CODE: 13/ SUBM DATE: None

Card 2/2

VANSHEYDT, A.A.; MEL'NIKOVA, Ye.P.; KUKHAREVA, L.V.; KRAKOVIK, M.G.

Method for the synthesis of dichloromethyl derivatives of
naphthalene and diphenyl oxide. Khim. nauka i prom. 3 no.2:
287 '58. (MIRA 11:6)

1. Institut vysokomolekulyarnykh soedineniy AN SSSR.
(Naphthalene) (Phenyl ether)

VANSHEYT', A.A.; MEL'NIKOVA, Ye.P.; KUKHAREVA, L.V.; KRAKOVIK, M.G.

Soluble poly-n-xylylene. Zhur.prikl.khim. 31 no.12:1898-1900
D '58. (MIRA 12:2)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Quinodimethan) (Polymers)

KRAKOVYAK, M.G.

507/1983

International symposium on macromolecular chemistry, Moscow, 1965

Neobenzodicyclopentadiene polymerization initiated by SnCl_4 [Moscow, 14-18 June 1960 (I. G. Gorbunov, I. A. Gerasimov, S. A. Gerasimov, and A. A. Gerasimov, *Chem. Abstr.*, 1960, 54:12512).] (Moscow, 14-18 June 1960; *Preprints and Abstracts of the 1st USSR Conference on Macromolecular Chemistry*, 1960, 346 p., 5,500 copies printed).

Sponsoring Agency: The International Union of Pure and Applied Chemistry, Commission on Macromolecular Chemistry

Тех. эк. и т. в. Polzakova.

PURPOSE: This collection of articles is intended for chemists and researchers interested in macromolecular chemistry.

CONTRIBUTORS. This is Section I of a multi-volume work containing scientific papers on macromolecular chemistry in Moscow. The material includes data on the synthesis and polymerization of polymers, and on the processes of polymerization copolymerization, polycondensation, and polycondensation. Each text is presented in full or summarized in French, English, and Russian. There are 47 papers, 28 of which were presented by Kargin, Nemtsov, Evgenev, and Gerasimov. The authors are listed in the introduction. References accompany individual articles.

Magnum, S. I., B. A. Dolgoplosk, M. G. Zhuravtsov, R. M. Krivavets, and I. M. Kuznetsov (USSR). The Synthesis of Cis- and Trans-1,2-Polymer on Oxide Catalysts and a Study of Their Structure and Properties

Reich, R., G. Y. Kopylov, Ya. M. Filizovskaya (1958). Synthesis and Polymerization of Sulfonated Polyacrylates

Boldenbeck, M., J. Kesting, L. Stenroos, and T. Arner (Crescentosols).
The Structure of Hardened Unsaturated Polystyrene 36

Altsherman, Ya. M., A. S. Eulikov, and N. N. Zerkovskii (USSR). New Method of Preparation of Polyesters and Their Oligomers

Bobdach, M., and A. Sarnachus (Czechoslovakia). Analysis of Cross-Linked Polyesters

and C. A. Glastewitz (USSR). On the synthesis and properties of crystalline polymers of the types of poly-p-xylenes and polyphenyleneimides. 90

McNULTY, S. C. (1958). **Cyclic Polymerization and Copolymerization of Methylacrylate.** *J. Polym. Sci. A-1*, **16**, 1011-1022.

(USER). Symbols of Crystals for Polyethylene

Functional Compound	Reference
Solomon, O. P., M. Eisen, E. Ashurst, and M. Zimmels (Rheonia).	12

Ironium Chloride Type Catalysts

PARING OF THE NEW TYPES OF LINEAR POLYMERS BY THE REACTION OF POLYCOMBINATIONS

Synthesis of Organosilicon Polymers on a Complex Catalyst: $(C_2H_5)_3Al \cdot 10ICl$

Kolotilov, G. S., S. I. Davydov, and N. V. Kizimova (USSR). Germanium-Containing Polymers

Sopotnikh, M. P., S. P. Kalina, V. V. Kotrel'skiy, D. A. Kochkin, L. I. Kravtsov, L. V. Lays, A. I. Bor'styn, and V. V. Bog'senro (USSR)
Dnepropetrovsk

Kolon, M. M., I. M. Kiseleva, and P. S. Morozov (USSR). The Effect of Chemical Structure on the Polymerization Activity of the Unsaturated

Vol'kenshteyn, M. V. (USSR). Cooperative Processes in the Polycondensation of Biopolymers

Card 6/9

49

83480

S/190/60/002/009/011/019

B004/B060

53831 also 2109,2209

AUTHORS: Mel'nikova, Ye. P., Vansheydt, A. A., Krakovyak, M. G.,
Kukhareva, L. V.

TITLE: Application of the Wurtz Reaction to the Synthesis of Polymers of the Polyxylylene Type, I. Interaction of Metallic Sodium With Bis-chloro-methyl Derivatives of Aromatic Hydrocarbons

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 9, pp. 1383-1390

TEXT: The authors discuss the production of polymers of the type $(-CH_2ArCH_2-)_n$ (Ar = aryl residue) by means of the pyrolysis of dimethyl-substituted aromatic hydrocarbons. This reaction does not succeed if, as happens with m-xylene, no quinone monomer can form, or the methyl groups in derivatives of diphenyl methane are bound to different aromatic rings. The Wurtz reaction is recommended for the production of polymers in such a case. After a survey of publications concerning the application of the Wurtz reaction to the synthesis of polymers (Refs. 4-11), the authors

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83480

S/190/60/002/009/011/019
B004/B060

Application of the Wurtz Reaction to the
Synthesis of Polymers of the Polyxylylene
Type. I. Interaction of Metallic Sodium With
Bis-chloro-methyl Derivatives of Aromatic
Hydrocarbons

describe the syntheses made by them. The initial products used were the substances listed in Table 1 with their melting points: p-bis-(chloro-methyl)-benzene; 2,5-bis-(chloro-methyl)-1,4-dimethyl benzene; 4,6-bis-(chloro-methyl)-1,3-dimethyl benzene; 4,4'-bis-(chloro-methyl)-diphenyl methane; and a difficultly separable mixture of bis-(chloro-methyl)-naphthalene (1,4 + 1,5). The reaction of the compounds with sodium metal took place in a nitrogen current in n-octane-, xylene-, and chiefly dioxane solution at temperatures kept near 20-25°C by cooling. Table 1 shows the analysis of the products obtained. They were: poly-p-dimethylene benzene; poly-2,5-dimethylene-1,4-dimethyl benzene; poly-4,6-dimethylene-1,3-dimethyl benzene; poly-4,4'-dimethylene-diphenyl methane; poly-4,4'-dimethylene diphenyl, and polydimethylene naphthalene (1,4 + 1,5). Although the reaction according to equation $n\text{ClCH}_2\text{ArCH}_2\text{Cl} + 2(n-1)\text{Na} \rightarrow \text{Cl}(-\text{CH}_2-\text{Ar}-\text{CH}_2)_n\text{Cl} + 2(n-1)\text{NaCl}$ made expect the formation of linear polymers with chlorine atoms at the ends, some of the polymers did not contain any chlorine. The

Card 2/4

83480

Application of the Würtz Reaction to the
Synthesis of Polymers of the Polyxylylene
Type. I. Interaction of Metallic Sodium With
Bis-chloro-methyl Derivatives of Aromatic
Hydrocarbons

S/190/60/002/009/011,019
B004/B060

authors doubt the possibility of a cyclization, and discuss the reactions that might cause a reduction of polymeric dichlorides. Reference is made to papers by Shorygin in this connection. The determination of the molecular weight on the basis of the chlorine content is not possible by the methods described. A variant of the synthesis from bis-(chloro-methyl)-m-xylene under elimination of the sodium excess led to the chlorine-containing product $\text{Cl}(\text{C}_{10}\text{H}_{12})_n\text{Cl}$, whose molecular weight was found to be

4000, $n = 30$, while the same chlorine-free polymer obtained with sodium excess had a molecular weight of 1800, $n = 14$. The polydimethylene-m-xylene was readily soluble in chloroform, and its molecular weight was 1800 - 4000 depending on reaction conditions. The polymers of dimethylene benzene, p-xylene, and diphenyl methane with CH_2 -groups in p-position were soluble in high-boiling solvents only. The determination of their molecular weight was not possible since the apparatus required was not available. The polymers from bis-chloro-methyl derivatives of diphenyl and naphthalene are spatially cross-linked products, insoluble in organic solvents.

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Application of the Wurtz Reaction to the
Synthesis of Polymers of the Polyxylylene
Type. I. Interaction of Metallic Sodium With
Bis-chloro-methyl Derivatives of Aromatic
Hydrocarbons

83480
S/190/60/002/009/011/019
B004/B060

There are 2 tables and 25 references: 3 Soviet, 9 US, 6 British, 6 German,
1 French, and 1 Swiss. UX

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR
(Institute of High-molecular Compounds of the AS USSR)

SUBMITTED: April 11, 1960

Card 4/4

86323

S/190/60/002/012/010/019
B017/B055

15.8114

1203

AUTHORS:

Mel'nikova, Ye. P., Vansheydt, A. A., Krakovyak, M. G.,
Kukhareva, L. V.

TITLE:

Application of the Wurtz Reaction in the Synthesis of Poly-
xylylene Type Polymers. II. Properties of the Polycon-
densation Products of Dichloromethylated Aromatic Hydro-
carbons With Metallic Sodium

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12,
pp. 1817-1823

TEXT: The physical properties of polymers prepared by polycondensation of
dichloro-methyl derivatives of aromatic hydrocarbons with metallic sodium
were investigated. It was found that the polymers prepared from dichloro-
methyl m-xylene, linked by CH_2 groups in meta position, are easily fusible
and soluble. Polydimethylene p-xylene, in which the CH_2 groups are in para
position, is crystalline and has a higher melting point. It dissolves in
 α -bromo naphthalene only at temperatures above 230°C . Poly-4,4'-dimethylene

Card 1/2

86323

Application of the Wurtz Reaction in the
Synthesis of Polyxylylene Type Polymers.

S/190/60/002/012/010/019
B017/B055

II. Properties of the Polycondensation Products of Dichloromethylated
Aromatic Hydrocarbons With Metallic Sodium

diphenyl methane is less crystalline and dissolves at temperatures lower
by 100°C than p-xylene derivatives. X-ray analysis of these polymers con-
firms their crystal structure. The radiograms were taken on a YPC-50
(URS-50) X-ray apparatus. They show that all the polymers prepared are
more or less crystalline and that the turbidities appearing at fusion or
during the cooling of solutions are caused by crystallization products. X
Insoluble three-dimensional polymerizates formed from dichloro-methyl
derivatives of diphenyl and naphthalene are high-melting crystalline com-
pounds. They dissolve after boiling for 4 h in α -bromo naphthalene with-
out suffering a change in melting point. The differences in polymerizate
properties are evidently closely linked with the different stabilities
of their crystallites towards higher temperatures and hot solvents. There
are 6 figures, 2 tables, and 6 references: 2 Soviet, 2 US, 1 British, and
1 German.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute
of High-molecular Compounds of the Academy of Sciences USSR)

SUBMITTED: May 20, 1960

Card 2/2

L 12432-63

ENP(j)/EPF(c)/EWT(m)/BDS ASD/ESD-3 Pc-4/Pr-4

RM/WW

ACCESSION NR: AP3001147

8/0190/63/005/006/0805/0810 76

AUTHOR: Vansheydt, A. A.; Krakovyak, M. G. 68

TITLE: Synthesis of aliphatic-aromatic polymers with conjugated double bonds by the Wittig reaction 7

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 5, no. 6, 1963, 825-810

TOPIC TAGS: synthesis, aliphatic-aromatic polymers, conjugated double bonds, polyhydrocarbons, polycondensation, Wittig reaction

ABSTRACT: The synthesis of polyphenylenepolyenes by the Wittig reaction possesses the advantage of an obligatory formation of a double bond at a carbonyl group without side reactions taking place. This paper reports on the production of the leading example of such a polymer by polycondensation in the presence of ethyllithium of p-xylylene-bis-triphenylphosphonium chloride with terephthalic anhydride in absolute ethanol, the reaction being allowed to proceed for 2.5-3 hours at room temperature. The obtained polymer is a yellow powder, partly soluble in benzene, xylene, and alhabromonaphthalene. Its elementary composition, as well as its ultraviolet, fluorescent, and electron paramagnetic resonance spectra, were investigated. The obtained polymers had a molecular weight within

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ACCESSION NR: AP3001147

the 1300-1650 range, gave no signal on EPR exposure at room temperature, and showed the presence of conjugated double bonds along the entire chain as well as on segments of the macromolecules. Deep appreciation is expressed to Skorokhodov, S. S. for discussing the results of the work, and to the workers of the physical laboratories of the Institute of High-Molecular Compounds, AN SSSR, Anufriyeva, Ye. V., Volkova, L. A., Zaytseva, A. D., Kazbekov, E. N., and Sharonova, N. A., for assistance in the study of the obtained polymers. The experimental work was conducted with the assistance of Gorskaya, M. N. Orig. art. has: 2 formulas and 3 tables.

ASSOCIATION: Institut vyssokomolekulyarnykh soedineniy AN SSSR (Institute of High-Molecular Compounds, Academy of Sciences SSSR)

SUBMITTED: 05 Nov 61

DATE ACQ: 01 Jul 63

ENCL: 00

SUB CODE: 00

NO REF SOV: 011

OTHER: 012

Card 2/2

L 1577-66 ENT(m)/TTF(c)/EXP(3)/T RM

ACCESSION NR: AP5022603

UR/0190/65/007/009/1576/1579
678.674AUTHORS: Krakovyak, M. G.; Klenin, S. I.; Skorokhodov, S. S.TITLE: Esters of polyvinylene glycol and aromatic acidsSOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1576-1579

TOPIC TAGS: ester, polyvinylene glycol, aromatic acid, infrared spectroscopy

ABSTRACT: Polyvinylene glycol esters were synthesized for the first time by the Schotten-Bauman reaction of an alkaline solution of polyvinylene glycol and a number of alkylbenzoyl chlorides. The typical synthesis is briefly described. The substituents were chosen so as to obtain soluble products. The properties of the aromatic esters of polyvinylene glycol (solubility, melting point, infrared spectra) were investigated and the experimental data were tabulated. The structure of the polymers was identified by elementary analysis and by the comparison of their spectra with those of polyvinylene carbonate and polyvinylene glycol. The characteristic absorption band at $1820-1830\text{ cm}^{-1}$ for polyvinylene carbonate disappears for polyvinylene glycol. The new polymer has intensive absorption

Card 1/2

L 1577-66

ACCESSION NR: AP5022603

bands at 1730 cm^{-1} (C=O group of aromatic esters), at 1600 and 1500 cm^{-1} (C=O bonds of aromatic ring), at 1260 cm^{-1} (valence vibrations C - O) and at 700 cm^{-1} (C-H bonds of aromatic ring). The benzene-soluble fractions have a higher degree of substitution. The comparison of the molecular weights of the original polyvinylene carbonate and of the soluble fraction of the ester of polyvinylene glycol and n-toluic acid showed that during the hydrolysis of polyvinylene carbonate with a 20% aqueous alkaline solution the polymer chains do not undergo appreciable degradation. The authors express their gratitude to Ye. I. Pokrovskiy, Ye. F. Fedorova, and G. V. Lyubimova for taking the infrared spectra. Orig. art. has: 1 figure and 1 table. ¹²

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy, AN SSSR (Institute of High-Molecular Compounds, AN SSSR)

SUBMITTED: 17Oct64

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 004

OTHER: 007

Card 2/2

KRAKOVYAK, M.I.
USSR / Acoustics. Ultrasound

J-4

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12737

Author : Yermolov, I.N., Krakovyak, M.I.

Inst : Not given

Orig Pub : Priborostroyeniye, 1956, No 8, 13-15

Abstract : Brief description of a pulse thickness gauge UZT-3M and a detailed analysis of the apparatus and of the principle of operation of the resonant thickness gauge UZT-4M (both constructed by the Central Scientific Research Institute for Precision Machinery). The instruments make it possible to measure thicknesses of walls, access to which is only from one side. In addition, they can serve for defectoscopy. The UZT-3M thickness gauge determines the thickness d of the part from the time of passage of the ultrasonic pulse from one

Card : 1/3

J-4

USSR / Acoustics. Ultrasound

Ab's Jour : Ref Zhur - Fizika, No 5, 1957, No 12737

to wall to the other and return, using the formula $d = Ct/2$, where C is the known velocity of ultrasound in the material of the article. The thickness can be measured over a range from 5 to 500 mm, but a satisfactory measurement accuracy (2%) is obtained when the thickness of the measured part exceeds 20 mm.

The ultrasonic resonant thickness gauge UZT-4M eliminates this shortcoming and makes it possible to measure thickness from 1 to 20 mm with an accuracy of $\pm 1.5\%$, and the measurements can be made over a cylindrical surface with a radius of curvature not less than 15 mm.

The resonant thickness gauge employs the standing waves formed in the article, and these can arise only at definite

Card

: 2/3

USSR/ Acoustics. Ultrasound

J-4

Abs Jour : Ref Zhur - Fizika, No 5, 1967, No 12737

: frequencies $f_n = nc/2d$, where n is an integer. The resonant frequencies of the article are read by means of a frequency-measuring apparatus, whose readings are converted by means of a calibration curve into thicknesses. The principal electrical diagram of the UZT-4M ultrasonic thickness gauge are given and its operation is described.

Card : 3/3

S/019/60/000/022/119/161
A156/A026

1.9600 also 2807

AUTHORS: Yermolov, I.N., Ivanov, I.V., and Krakovyak, V.S.

TITLE: A Luminescent Defectoscopic Method for Parts

PERIODICAL: Byulleten' izobreteniy, 1960, No. 22, p. 49

TEXT: Class 42k, 46¹⁰. No. 133670 (658246/25 of Mar 12, 1960).
This is a method based on the immersion of an article being examined into a luminescent bath and on observation of the luminescence of the leftovers of a liquid that has filled a crack, after it has been removed from the surface of article. In order to increase the sensitivity of the above process, engendered by an improvement of the conditions under which the luminescent filler liquid is applied to cracks, the article being examined is subjected to the effect of supersonic oscillations, when it is being immersed into a luminescent liquid. ✓

Card 1/1

KRAKOWIAK, H.

"Piece rates in the clothing industry." p. 53. (ODZIERZ, Vol. 4, no. 3, Mar. 1953, Lodz, Poland)

SO: Monthly List of East European Accessions, L. C., Vol. 3, No. 5, May 1954, Incl.

KRAKOWIAK, H.

"Piecework on transportation jobs in the clothing industry." p. 102. (ODZIEZ,
Vol. 4, no. 5, May 1953, Lodz, Poland)

S.: Monthly List of East European Accessions, L. C., Vol. 3, No.5, May 1954, Uncl.

KRAKOWIAK, H.

"Reserve Workers and Labor Productivity." p.197
(ODZIEZ Vol. 4, no. 10, Oct. 1953 Lodz, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/ Uncl.

LECHOWSKI, H.

Problemy technologicznej przemyslnosci tekstylnej. 1. 147. (NOTOJEMNA,
Vol. 5, No. 7, Aug. 1954, Warszawa, Poland)

10: Monthly list of new European inventions, (LMD), 10, Vol. 3, No.12, Dec.
1954, Bel.

KRAKOWIAK, H.

KRAKOWIAK, H. Two methods of polishing braces, initial and proper running of braces, in the Chelmza Fancy-Goods Plant. p. 303. Vol. 7, no. 11, Nov. 1956. GDZIEZ. Lodz, Poland.

SOURCE: East European Accessions List (EEAL) Vol. 6, no. 4--April 1957

KRAKOWIAK, HANNA

med Sporulation media for a streptomycin-producing *Streptomyces griseus* strain. Wanda Woznicka and Hanna Krakowiak (Państwowy Zakład Hig., Warsaw). *Hid. Doświadczalna i Mikrobiol.* 6, 374-8 (1950). --Eight media, contg. meat, yeast, or potato ext. (I) and peptone, asparagine (II), and NaNO_3 or KNO_3 as N source were compared. Best sporulation was obtained in presence of I, then II (18% less). I contg. 10-20% starch gave quickest and greatest sporulation and highest production of streptomycin. The strain stored on the I medium at 6° retained its characteristics.

I. Z. Roberts

2

Handwritten: *KRAKOW, POL.*

3293 621.315.145 : 659.14 : 621.316.1.631.116.3(435)
 Krakowiak S. The Problem of Using Steel Conductors in Rural Distributing Networks.

„Zagadnienie stosowania linek stalowych w rozdzielczych sieciach wiejskich”. Przegląd Elektrotechniczny, No. 3, 1951, pp.98-106, 18 figs., 6 tabs.

Conditions and scope of applicability of steel conductors in H.T. and L.T. rural overhead systems, as a means of curtailing investment costs.

Electrical and mechanical properties of conductor steels. Comparison between steel and non-ferrous metal conductors. 1) Steel conductors can be used in overhead lines of distributing networks for farm electrification purposes; a) in branch lines of an H.T. rural distributing system, providing that not more than 10 rural transformers are fed from them, and that the steel conductor used is of 25 mm² or 35 mm² section; b) for house connections involving, in the majority of cases, steel wire of 10, 16 and 25 mm² section. 2) The problem of using steel conductor in L.T. lines does not arise, except in the case of short branches to individual outlying farmsteads. 3) Steel cables intended as conductors for overhead distributing networks should have a tensile strength of 40 kg/mm².

Krasoulek S.

4) The conductors must be thoroughly galvanised by the hot method -- every single wire individually. Pure blast-furnace zinc may be used for this purpose. Inefficient galvanising may, in addition to curtailing the life of the conductor, be a source of considerable danger, since corrosion may cause the conductor to break. 5) The fittings used with correctly galvanised steel conductors can be of galvanised iron, and there is no need to use bimetallic inserts; this applies to connections with both aluminium and copper conductors. 6) Allowance must in all computations for electric lines consisting of steel conductors, be made for the dependence of effective and inductive resistance upon load; failing this, the results will be incorrect, likely to diverge from actual figures by as much as 50 per cent. 7) The approximate saving in first cost will, in the case of steel conductors and provided the conditions stipulated above have been fully fulfilled, amount to roughly 30 per cent for H.T. networks, and approximately 75 per cent for branch connections.

IRENOSIN, S.

"Electric Nursery for Small Pigs", p. 180, (MIAOCHI INTERNATIONAL, Vol. 17, No. 8, August 1954, Warsaw, Poland)

CC: Monthly List of East European Accessions (EAL), IC, Vol. 4, No. 3, March 1955, Encl.

KRAKOWIAK, S.

"Problem of using steel conductors in rural distributing networks." p. 92. (Przegląd Elektrotechniczny, Vol. 30, no. 3, Mar 54, Warszawa)

SO: Monthly List of East European Accessions, Vol 3 No 6 Library of Congress Jun 54 Uncl

KRAKOWIAK, S

P O L .

3301

636.316:631.316:631.116.3

Krakowiak S, Kozłowski S. Standard Type of Rural Transformer Station.

„Znormalizowana wiejska stacja transformatorowa”. Przegląd Elektrotechniczny. No. 3, 1964, pp. 106-110, 17 figs.

This article deals with the fundamental principles for standardising rural transformer stations. Design of such a standardised station, computations, and conditions under which it can be operated.

PT 200

KRAKOWIAK, S.

"Outlines for typical implementation of work involved in farm electrification." p. 121.
(Przegląd Elektrotechniczny, Vol. 30, no. 3, Mar 54, Warszawa)

SO: Monthly List of East European Accessions, Vol 3 No 6 Library of Congress Jun 54 Uncl

PLANSKY, I.; ROBIN, I.

Problems concerning the use of electric power in agriculture in the light of
discussions of the World Power Conference held in 1957 in Belgrade and in 1958
in Montreal. p. 69.

PIKZOWSKI, M.; STONICKI, J. (Stowarzyszenie Elektryków Polskich) Warszawa,
Poland. Vol. 33, no. 2, Feb. 1959.

Monthly List of East European Accessions (EEAI), 16, Vol. 2, n. 2, aut. 1959.

Uncl.

NIKECZ, Istvan; KAMOCSA, Sandor; FLESC, Gyorgy; BANHAZI, Gyula; BANOCZY, Gyorgy; NAGY, Karoly; KUNFFY, Zoltan, dr.; KOLLER, Kalman; BAUMANN, Pal; KRAKOWIAK, Sztanislaw (Varso, Lengyelország); FUTO, Istvan; SZABO, Jozsef; FERENCZI, Bela; TIBOLD, Vilmos, dr.; PUCHER, Odon; KOVACS, Laszlone; UDVARDI, Kornel

Discussion held in the field of "Rural electrification."
Villamosag 8 no. ~~5~~6:153-156 My-Je '60.

1. "Villamosag" szerkeszto bizottsagi tagja (for Banoczy).

KRAKOWIAK, Stanislaw, mgr., inz.

Protection techniques against electrocution and economic aspects in investments for the electrification of agriculture. Wiad elektrotech 28 no.11/12:335-339 N-D '61.

1. Zjednoczenie Elektryfikacji Rolnictwa, Warszawa.

KRAKOWIAK, Stanislaw, mgr inz.

Technical progress in the execution of agriculture electrification investments. Wiad elektrotechn 28 no.8:239-243 Ag '61.

1. Zjednoczenie Elektryfikacji Rolnictwa, Warszawa.

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Antishock protection techniques and economy in agricultural
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335-339 N-D '61.

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KRAKOWIAK, Stanislaw, mgr inż.

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no.6:152 Ja '63.

KRAKOWIAK, Stanislaw, mgr inz.

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Wiad elektrotechn 31 no.10:232-233 0 '63.

1. Zjednoczenie Elektryfikacji Rolnictwa, Warszawa.

KRAKOWIAK, Teresa

SURNAME, Given Names

Country: Poland

Academic Degrees:

Affiliation:

Source: Warsaw, Medycyna Weterynaryjna, Vol XVII, No 6, June 1961, pp 327-330

Data: "Leptospirosis in Dogs."

Authors:

TARKIEWICZ, Stanislaw, docent dr., Faculty of Internal Medicine (Katedra Chorob Wewnętrznych), Veterinary Division (Wydział Weterynaryjny) College of Agriculture (MSR--Wyższa Szkoła Rolnicza), Lublin;

Director: Prof. Zdzislaw FINIK, Dr.

KRAKOWIAK, Teresa, /presumed/ Department of Anthroponosis (Zakład Antropozoonoz), Institute of Occupational Medicine and Agricultural Hygiene (Instytut Medycyny Pracy i Higieny Wsi), /location not given/; Director: Prof. Jozef PARNAS, Dr.

KOZICKA, Anna

KWOLEK, Zbigniew; KRAKOWIAN, Halina; POTOCZEK, Stanislaw; dr. med.;
SZOTCJA, Irena

The 3d molars in university students in Wroclaw. Czas. stomat.
18 no.4:383-387 Ap'65.

~1. Z Katedry Stomatologii Zachowawczej Akademii Medycznej we
Wroclawiu (Kierownik: dr. med. S. Potoczek).

SZATOLJA, Irena; KRAKOWIAN, Halina; KWOLEK, Zbigniew; POTOCZEK, Stanislaw

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Wroclaw. Czas. stomat. 18 no.3:221-224 Mr '65.

1. Z Katedry Stomatologii Zachowawczej Akademii Medycznej we
Wroclawiu (Kierownik: dr. med. S. Potoczek).

WESOLOWSKI, S.; KRAKOWKA, P.

Case of renal tuberculosis treated with streptomycin with roentgenologic proof of improvement. Gruzlica, Warszawa 18 no.3-4:562-567 July-Dec 50. (CIML 20:7)

1. Of the Surgical Department of Wolski Hospital , Warsaw (Head--Docent Leon Mauteffel) and of the Pulmonary Department of the Institute of Tuberculosis in Hospital No. 5, Warsaw (Head--Jan Madey, M.D.).

KRAKOWSKA, P.

Mycobacterium tuberculosis in bronchial lavage. *Gruzlica, Warsz.*
19 no.1:33-41 Jan-Feb 1951. (CLML 22:3)

1. Of the Institute of Tuberculosis (Director--Docent J. Misiewicz,
M. D.), Warsaw.

KRAKOWKA, P.

Effect of filtrates of *Candida albicans* on acid-fast bacilli; preliminary communication. *Gruzlica* 21 no.6:435-440 June 1953. (CLML 25:4)

1. Of the Mycological Laboratory and of the Department of Biochemistry of the Institute of Tuberculosis (Director--Prof. J. Misiewicz, M.D.), Warsaw.

Krakowska, P.

✓ Action of salicylhydroxamic acid and its derivatives on pathogenic fungi in vitro. H. Halweg and P. Krakowska (Inst. Tuberc., Warsaw). Bull. acad. polon. Sci., Classe III, 9, 437-40 (1955); cf. C.A. 47, 7092h; 48, 13638k. — The action of salicylhydroxamic acid (I), Na salt of salicylhydroxamic acid (II), and 3-bromosalicylhydroxamic acid (III) on the following pathogenic fungi was analyzed: *Trichophyton tyronum* (IV), *Epidermophyton rubrum* (V), *Achorion schoenleini* (VI), and *Candida albicans* (VII). The optimum concn. was detd. by the diln. method with a fluid nutrient medium adapted for fungi cultivation (Sabouraud agar pH = 5 with glucose). The highest concn. used of I and II equaled 1 mg./ml. culture medium. III was not readily H₂O sol., so an equiv. of NaOH was added. A soln. of I had a pH of 6-6.5 in this medium, II a pH of 7-7.5, and III with NaOH had a pH of 7-8. I and II in concns. of 0.25-1 mg./ml. medium totally checked the growth of IV, V, and VI. III in the concn. used showed only a mild inhibition of the fungus growth.

Francis Taylor, Jr.

KRAXOWKA, Pawel, Instytut Gruzlicy

Removing of residual blood from respiratory tract after lung hemorrhage by suction. Gruzlica 23 no.6:442-443 June '55.

(LUNGS, hemorrhage,

ther., removing of residual blood from resp. tract by suction)

(HEMORRHAGE

lung, ther. removing of residual blood from resp. tract by suction)

HALWEG, Halina; KRAKOWKA, Pawel

Fungostatic action of certain aromatic hydroxamic acids.
Gruzlica 24 no.4:233-238 Apr 56.

1. Z Pracowni Mykologicznej Instytutu Gruzlicy Kierownik:
doc. dr. P. Krakowka, Dyrektor: prof. dr. J. Misiewicz,
Warszawa, ul. Plocka 26.

(FUNGICIDES,
hydroxamic acid aromatic deriv. (Pol))

KRAKOWKA, PAWEŁ

ZAJACZKOWSKA, Jadwiga; HERYNG, Kazimierz; KLOTT, Maria; KRAKOWKA, Pawel;
LANGE, Jadwiga; PIEKARNIAK, Kryspin; ZYCH, Dobiesław

Effect of chemotherapy on the indications for pneumothorax
treatment and on early complications. Gruzlica 24 no.8:707-
718 Aug 56.

1. Z Oddzialow ftyzjatrycznych Instytutu Gruzlicy Kierownik:
doc. dr. W. Jaroszewicz. Dyrektor: prof. dr. Janina Misiewicz.
(TUBERCULOSIS, PULMONARY, ther.
chemother., eff. on indic. for artif. pneumothorax & on
early compl.)
(PNEUMOTHORAX, ARTIFICIAL
eff. of chemother. on indic. for pneumothorax)

KRAKOWKA, P.

J. Alkiewicz, Z. Eckstein, H. Halweg, P. KRAKOWKA, T. Urbanski: "Fungistatic Activity of Some Hydroxamic Acids," Nature, Vol. 180, No. 4596, (London) 30 November 1957, pp. 1204-1205. Published from the Department of Dermatology, Municipal Hospital No. 1, Poznan; Department of Chemistry, Institute of Technology, Warsaw; and, Laboratory of Mycology, Institute of Tuberculosis, Warsaw.

POLAND/Chemical Technology, Chemical Products and Their Applications. Pesticides. H

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 20704

Author : Eckstein, Z., Halweg, H., Krakowka, P., Urbanski, T.

Inst : AS Poland.

Title : The Fungistatic Activity of 3,4-Dichlorophenoxyacethydroxamic Acid on Pathogenic Fungi in Vitro.

Orig Pub : Bull. Acad. polon. sci. Ser. sci. chim. geol. et geogr., 1958, 6, No 4, 235-238, XVIII

Abstract : Tests of the fungicidal activity of hydroxamic acids by the method of "cylinders" with *Candida albicans* 102, *Cryptococcus neoformans* 33, *Trichophyton gypseum* 768, *T. rubrum* 3346, *T. violaceum* 3905, *T. schoenleinii* III 1 F and *Penicillium* 45 showed that 2,4- and 2,5-dichlorophenoxy- and 2-methyl-4-chlorophenoxyacethydroxamic acids inhibit the growth of all tested species except *C. albicans*; alpha and beta-naphthoxyacethydroxamic acids suppressed the growth of fungi of the *Trichophyton* family; 5-nitro-2,4-dichlorophenoxyacethydroxamic acid is active against the latter three species; 2,4,6-trichlorophenoxyacethydroxamic acid is non-active. 3,4-dichlorophenoxyacethydroxamic acid (I) in concentrations of 0.005-0.25 ml/g suppresses the growth of

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POLAND/Chemical Technology, Chemical Products and Their Applications. Pesticides. H

CIA-RDP86-00513R000826020004-9

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 20704

Candida albicans 102, *Cryptococcus neoformans* 33, *Trichophyton gypseum* 768, *T. rubrum* 3346, *T. violaceum* 3905, *T. schoenleinii* III 1 F and *Penicillium* 45 showed that 2,4- and 2,5-dichlorophenoxy- and 2-methyl-4-chlorophenoxyacethydroxamic acids inhibit the growth of all tested species except *C. albicans*; alpha and beta-naphthoxyacethydroxamic acids suppressed the growth of fungi of the *Trichophyton* family; 5-nitro-2,4-dichlorophenoxyacethydroxamic acid is active against the latter three species; 2,4,6-trichlorophenoxyacethydroxamic acid is non-active. 3,4-dichlorophenoxyacethydroxamic acid (I) in concentrations of 0.005-0.25 ml/g suppresses the growth of

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